

Los
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CONTRIBUTIONS ★ IN SCIENCE ★

Number 7

March 7, 1957

507,73
1C2L868

THE MACHRIS BRAZILIAN EXPEDITION

BOTANY: Phanerogamæ, various smaller families

Edited by E. YALE DAWSON



CONTRIBUTIONS IN SCIENCE is a series of miscellaneous technical papers in the fields of Biology, Geology and Anthropology, published at irregular intervals by the Los Angeles County Museum. Issues are numbered separately and numbers run consecutively regardless of subject matter. Number 1 was issued January 23, 1957. The series is available to scientists and scientific institutions on an exchange basis. Copies may also be purchased at a nominal price.

HILDEGARDE HOWARD

Chief Curator of Science

EDITOR

THE MACHRIS BRAZILIAN EXPEDITION

BOTANY: Phanerogamæ, various smaller families

Edited by E. YALE DAWSON*

The plant collections listed below were obtained on a Los Angeles County Museum expedition to Goiás, Brazil, sponsored by Mr. & Mrs. Maurice A. Machris and conducted under the auspices of the Museu Nacional do Brasil. Each identified specimen is indicated by a citation of my field collection number. Detailed locality data for these may be found in the general account of the botany of the Expedition which appeared under my name as number 2 of this series. Briefly, however, specimens bearing numbers from 14133 to 14815 came from the Chapada dos Veadeiros, between São João da Aliança and Veadeiros, April 13-May 3, 1956. Those bearing numbers from 14816 to 15236 came from the region between Amaro Leite and Peixe, especially in the southern Serra Dourada, May 15 to June 10, 1956.

The identifications have been made and annotated by a number of specialists as indicated with the name of each family. I wish here to thank them for their prompt cooperation in this work.

The first set of specimens is deposited at the Los Angeles County Museum except for holotypes which are deposited in the Museu Nacional do Brasil in Rio de Janeiro. Duplicate specimens, when available, have been retained by the respective cooperating specialists.

The photographs were prepared by Mr. Lewis H. Athon.

The families are arranged alphabetically. Reports on others will follow as the work progresses.

ANNONACEÆ

det. by Robert E. Fries, Floragatan 3, Stockholm, Sweden

Anaxagorea dolichocarpa Sprague et Sandw. 15131 This species is very variable and has a wide distribution from Venezuela to Rio de Janeiro.

Annona malmeana R. E. Fr. 14444 This species is known heretofore only from Matto Grosso, Brazil, and from Paraguay. The find in Goiás is interesting.

*Expedition Botanist, Los Angeles County Museum.

APOCYNACEÆ

det. by Joseph Monachino, The New York Botanical Garden,
New York 58, N. Y.

Macrosiphonia velame (St. Hil.) Müll. Arg. 14278a; 14549

Macrosiphonia martii Müll. Arg. 14562; 14729

Allamanda angustifolia Pohl 14661

Stipecoma pettigera (Stadelm.) Müll. Arg. 14682

Mandevilla hirsuta (A. Rich.) K. Sch. 14734 This is a variant
with sparsely hirsute leaves and linear bracts.

Odontadenia hypoglaucæ (Stadelm.) Müll. Arg. 15072

ASCLEPIADACEÆ

det. by Joseph Monachino

Barjonia linearis Dcne. 14166

Barjonia obtusifolia Fourn. 14827; 15082 These two collections
may possibly be merely forms of *B. erecta* (Vell.) K. Sch.

Ditassa virgata Fourn. 14291; 14771 The latter has larger flowers.

Number 14595 is held for further study as a probable undescribed
species of this family.

BIGNONIACEÆ

det. by N. Y. Sandwith, The Herbarium, Royal Botanic Gardens,
Kew, England

Memora axillaris Bur. et K. Sch. 15063 This is a form with more
compound leaves than usual.

Memora nodosa (Manso) Miers 15090

Phryganocydia corymbosa (Vent.) Bur. et K. Sch. 14382

Zeyheria digitalis (Vell.) Hoehne 14415

CHENOPODIACEÆ

det. by Lyman B. Smith, U. S. National Herbarium, Washington, D. C.

Chenopodium ambrosioides L. 14759

COCHLOSPERMACEÆ

det. by Lyman B. Smith

Cochlospermum regia (Mart. et Schrank.) Pilger 14821

ERICACEÆ

det. by A. C. Smith, U. S. National Herbarium, Washington, D. C.

Gaylussacia brasiliensis (Spreng.) Meissner 14688 This is a
fairly *sens. lat.* identification. The species, frequent in eastern Brazil,
is widely interpreted in *Flora Brasiliensis*, etc.

ERIOCAULACEÆ

det. by Harold N. Moldenke, 15 Glenbrook Ave., Yonkers, New York

Eriocaulon gibbosum Körn. 14881 The species is found from Goiás southward through Bahia and Minas Gerais to Rio de Janeiro and west to Matto Grosso. Previous Goiás collections were Riedel 2416 and Weddell 2128.

Eriocaulon modestum Kunth 14655 A widely distributed species found in Brazil from Pernambuco, Piauí, and Goiás, through Bahia, Minas Gerais, Rio de Janeiro, Matto Grosso, and São Paulo, to Paraná, Santa Catarina, and Rio Grande do Sul, and into Uruguay. A previous Goiás collection is Glaziou 22309.

Pæpalanthus acanthophyllus Ruhl. 14615 The species is known also from Bahia and Minas Gerais. A previous Goiás collection is the type, Glaziou 22323.

Pæpalanthus capanemæ Alv. Silv. 14616 Known definitely only

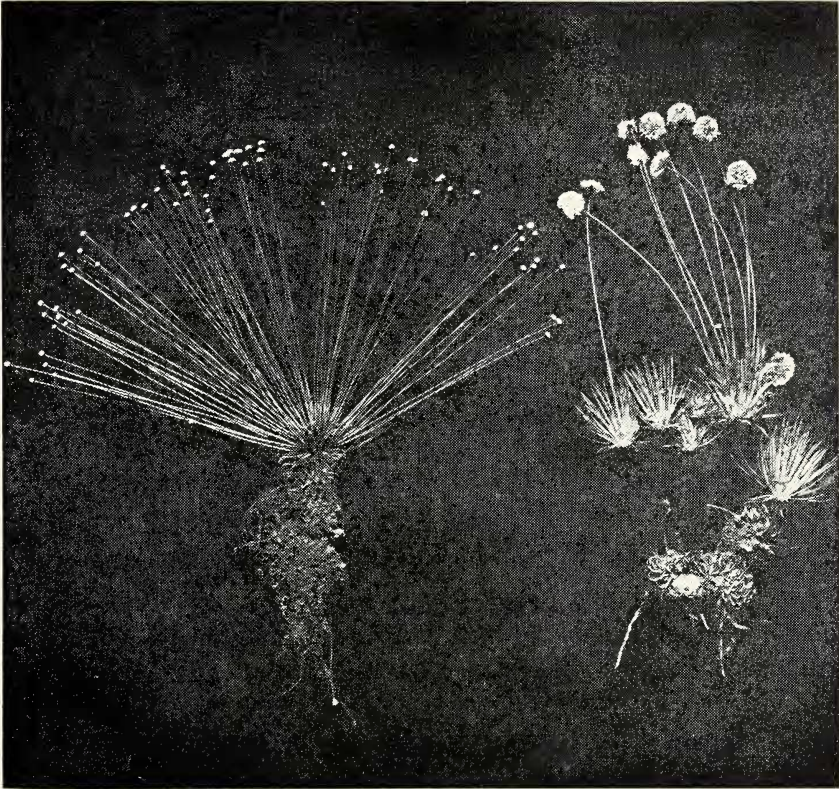


Fig. 1. (left) *Pæpalanthus capanemæ* Alv. Silv. Part of Dawson 14616, x 0.6. (right) *Syngonanthus densifolius* var. *pilosior* Alv. Silv. Part of Dawson 14639, x 0.6.

from Goiás. The species is based on Herb. A. Silveira 629 [Herb. Rio de Janeiro 6628] with no locality of collection designated. Fig. 1 (left)

Pæpalanthus elongatus (Bong.) Ruhl. 14779 Known also from Piauí, Minas Gerais, and São Paulo; 6 named varieties occur in these and other states of Brazil. Previous Goiás collections of the typical form are Glaziou 22311 and Riedel 2744.

Pæpalanthus manicatus V. A. Pouls 14593 The species was known hitherto only from Minas Gerais.

Pæpalanthus scandens Ruhl. 14668 The species is known only from Goiás. Previous collections from this state are Glaziou 22296, Macedo 3584, and Ule 230, in addition to the cotypes, Glaziou 22295 and s.n., and Ule 3155.

Pæpalanthus sessiliflorus Mart. 14592 Known hitherto only from Maranhão and Bahia.

Pæpalanthus speciosus var. *glaber* Ruhl. 14271; 14826 The variety is known also from Maranhão and Minas Gerais; the typical form of the species occurs also in other states of Brazil. Other Goiás collections of the variety are Macedo 3246 and 3688, and Riedel 2747, in addition to the cotypes, Burchell 5983 and 7029, and Glaziou 19975, 22319, and 22320.

Syngonanthus anthemiflorus (Bong.) Ruhl. 14631 The species is known from Minas Gerais and from Misiones, Argentina. This is the first record from Goiás, and it is a pity that the heads are so immature as to make identification uncertain.

Syngonanthus densifolius var. *pilosior* Alv. Silv. 14639 Hitherto known only from Minas Gerais. Fig. 1 (right)

FLACOURTIACEÆ

det. by H. Sleumer, Rijksherbarium, Nonnensteeg 1, Leiden,
Netherlands

Casearia grandiflora St. Hil. 15012

GENTIANACEÆ

det. by Joseph Ewan, Department of Botany, Tulane University,
New Orleans 18, La.

Calolisianthus speciosus (Cham. et Schlecht.) Gilg 14290

Calolisianthus amplissimus (Mart.) Gilg 14751b

Calolisianthus macranthus Gilg 14833; 15059 There is some indication that the 14833 collection may be distinct from Gilg's species, which I have seen only from a good photograph of the type, but it is a group where the size of the corolla varies a good deal, and I am doubtful that the collection, remarkable as it is for its very large corollas, represents a different species.

- Dejanira nervosa* Cham. et Schlecht. 14165; 15055
Dejanira erubescens Cham. et Schlecht. 14748
Dejanira pallescens Cham. et Schlecht. 15073
Curtia patula (Mart.) Knobl. 14608; 14645
Curtia tenella Cham. et Schlecht. 14648
Schultesia gracilis Mart. 14642
Schultesia guianensis (Aubl.) Malme 14794
Schultesia brachyptera Cham. 15151
Nymphoides microphyllum (St. Hil.) Ktze. 15141

HIPPOCRASTACEÆ

det. by A. C. Smith

- Peritassa lævigata* (Hoffmannsegg) A. C. Smith 14379 This species is distributed from Venezuela to Rio de Janeiro, but has not otherwise been known to occur in Goiás.

LABIATÆ

det. by Carl Epling, Department of Botany, University of California,
Los Angeles 24, Calif.

- Hyptis rubicunda* Pohl ex Benth. 14199; 14385; 14898
Hyptis conferta Pohl ex Benth. 14244
Hyptis eriophylla Pohl 14449
Hyptis glomerata Mart. 14468
Hyptis lanuginosa Glaziou 14612
Hyptis ovalifolia Benth. 14664; 14735; 14727
Hyptis interrupta Pohl ex Benth. 14823
Hyptis marifolia Benth. 14824; 14872
Hyptis lutescens Pohl ex Benth. 14835
Hyptis ?monticola Mart. ex Benth. 14836
Hyptis pycnocephala Benth. 14839
Hyptis imbricata Pohl ex Benth. 15153
Hyptis mollis Pohl ex Benth. 15169
Hyptis pachyphylla Epling 14786
Hyptis machrisæ Epling 14252 This species is described as new in paper No. 6 of this series.
Hyptis crinita Benth. 14218
Hyptis nudicaule Benth. 14464
Hyptis densiflora Pohl 14476a; 15065
Leonotis nepetæfolia R. Br. 14754
Ocimum gratissimum L. 14756
Marsipyanthes chamædrys (Vahl) Ktze. 15034

MALVACEÆ

det. by Thomas H. Kearney¹

- Cienfuegosia affinis* (H.B.K.) Hochr. 15052
Hibiscus (aff. *H. furcellatus* H.B.K.?) 14546; 14810
Hibiscus sabdariffa L. 15186
Lopimia malacophylla Mart. (*Pavonia* m. Garcke) 14384; 14810
Pavonia mollis H.B.K. 14425
Pavonia pterocarpa R. E. Fries? 14547 Fruit not present.
Pavonia rosa-campestris A. Juss. 14811
Pavonia sessiliflora H.B.K. 15197
Sida aurantiaca St. Hil.? 14258; 14892
Sida linifolia Juss. ex Cav. 14213; 14254; 14922
Sida rhombifolia L. 14192
Sida rhombifolia L. var. *canariensis* (Willd.) K. Sch. 14167a
Urena lobata L. 14550; 15101

MARCGRAVIACEÆ

det. by Lyman B. Smith

- Norantea goyazensis* Camb. 15102 The specimen is topotypic from the Serra Dourada.

MAYACACEÆ

det. by Lyman B. Smith

- Mayaca sellowiana* Kunth 14957

MYRISTICACEÆ

det. by A. C. Smith

- Virola setifera* Aubl. 14498

ONAGRACEÆ

det. by Philip A. Munz, Rancho Santa Ana Botanic Garden,
Claremont, Calif.

- Jussiaea myrtifolia* Camb. 14246; 15152
Jussiaea potamogeton Burch. 15159
Jussiaea tomentosa Camb. 15154; 15245
Jussiaea leptocarpa Nutt. 14902; 15002

PALMACEÆ

det. by Harold E. Moore, Jr., Bailey Hortorium, Cornell University,
Ithaca, New York

The following determinations are preliminary, but in some cases the

¹ These were the last collections studied by Dr. Kearney who passed away a few days after having examined and identified them at the California Academy of Sciences in San Francisco.

incomplete material does not lend itself to specific identification. The seven collections of *Syagrus* will require what amounts to monographic treatment if the resulting identifications are to be trusted. Accordingly, these must wait until a point is reached where adequate attention can be given to the material.

Diplothemium sp. 14222 Mature fruits are lacking as well as staminate flowers from which specific characters are largely drawn.

Syagrus spp. 14433; 14458; 14557; 14585; 15062; 15068; 15221; 15281a

Bactris sp. 15068 (sterile)

Mauritia vinifera Mart.? 15225

Mauritia aff. *M. armata* Mart. 15218 Fruits and male inflorescences are lacking. The leaf differs from that of *M. armata*, as described and illustrated by Martius, in having prominent brown scales on the midrib below.

Euterpe edulis Mart. vel valde aff. 15219

Astrocaryum aff. *A. vulgare* Mart. 15220 This seems reasonably close to *A. vulgare*, but is less strongly armed than that species as previously described. The inner bract and male flowers are not present for comparison, and the petioles do not agree exactly with Martius' description. One must allow for some variation in armature and petioles, but there is so little material available that limits of the variation cannot yet be determined.

Acrocomia sp. 15224

PIPERACEÆ

det. by T. G. Yuncker, Department of Botany, DePauw University,
Greencastle, Indiana

Piper amazonicum (Miq.) C.DC. vel aff. 15070 This is a somewhat uncertain identification.

Piper arboreum Aubl. 14765 A small-leaved variety which may prove to be undescribed when monographic studies are made.

Piper glabratum Kunth 15007

RUTACEÆ

det. by Lyman B. Smith

Spiranthera odoratissima St. Hil. 14286

THEACEÆ

det. by Lyman B. Smith

Kielmeyera rubiflora Camb. 14287

Kielmeyera rosea Mart. 14831



Fig. 2. *Lippia candicans* Hayek. Part of Dawson 14695, x 0.5.

UMBELLIFERÆ

det. by Mildred E. Mathias, Department of Botany, University of California, Los Angeles 24, Calif.

Eryngium pristis Cham. et Schlecht. 14553; 14751d

Eryngium paniculatum Cav. et Domb., sensu Wolff 14751 This is a polymorphic type.

VERBENACEÆ

det. by Harold N. Moldenke

Amsonia arborea H.B.K. 14859; 15013; 15026 This widespread species occurs from Venezuela and the Guianas to Brazil (Amazonas, Pará, Piauí, Maranhão, and Mato Grosso). These are, however, the first records from Goiás.

Amsonia hirta Benth. 14726 The species is known from Pará, Goiás, and Mato Grosso to Minas Gerais and São Paulo; also in Paraguay. Previous Goiás collections are Burchell 6999, G. Gardner 3937, Glaziou 21835, and Ule 451.

Lantana hypoleuca Briq. 14228 This widespread species is known hitherto from Minas Gerais, Rio de Janeiro, São Paulo, and Rio Grande do Sul, as well as from Bolivia, Paraguay, Uruguay, and Argentina. This is, however, the first record from Goiás.

Lippia candicans Hayek 14695 The species is known only from Goiás. The type and only other known collection is G. Gardner 3942. Fig. 2.

Lippia mattogrossensis Moldenke 14864 Hitherto known only from Mato Grosso. Fig. 3 (left)

Lippia oxynemis Schau. 14429 The species is known also from Bahia and Minas Gerais. A previous Goiás collection is the cotype, Pohl 137.

Stachytarpheta australis Moldenke 14534 This widespread species occurs from Cuba to Argentina, but has not previously been reported from Goiás.

Stachytarpheta chamissonis Walp. 14618 The species is known only from Goiás. Previous collections from this state are Glaziou 21909 and Macedo 3667, in addition to the cotypes, Lund s.n., Pohl s.n., and Riedel s.n. Fig. 4.

Stachytarpheta dawsonii Moldenke² Fig. 5.

"Suffrutex; caulibus parce ramosis gracilibus dense villosa-tomentosis, pilis albidis; foliis sessilibus subcoriaceis imbricatis ellipticis vel obovato

² Due to a misunderstanding, the description of this new species, here reprinted, appeared December 15, 1956, without illustration in *Revista Sudamericana de Botanica* 10(7): 231-232.

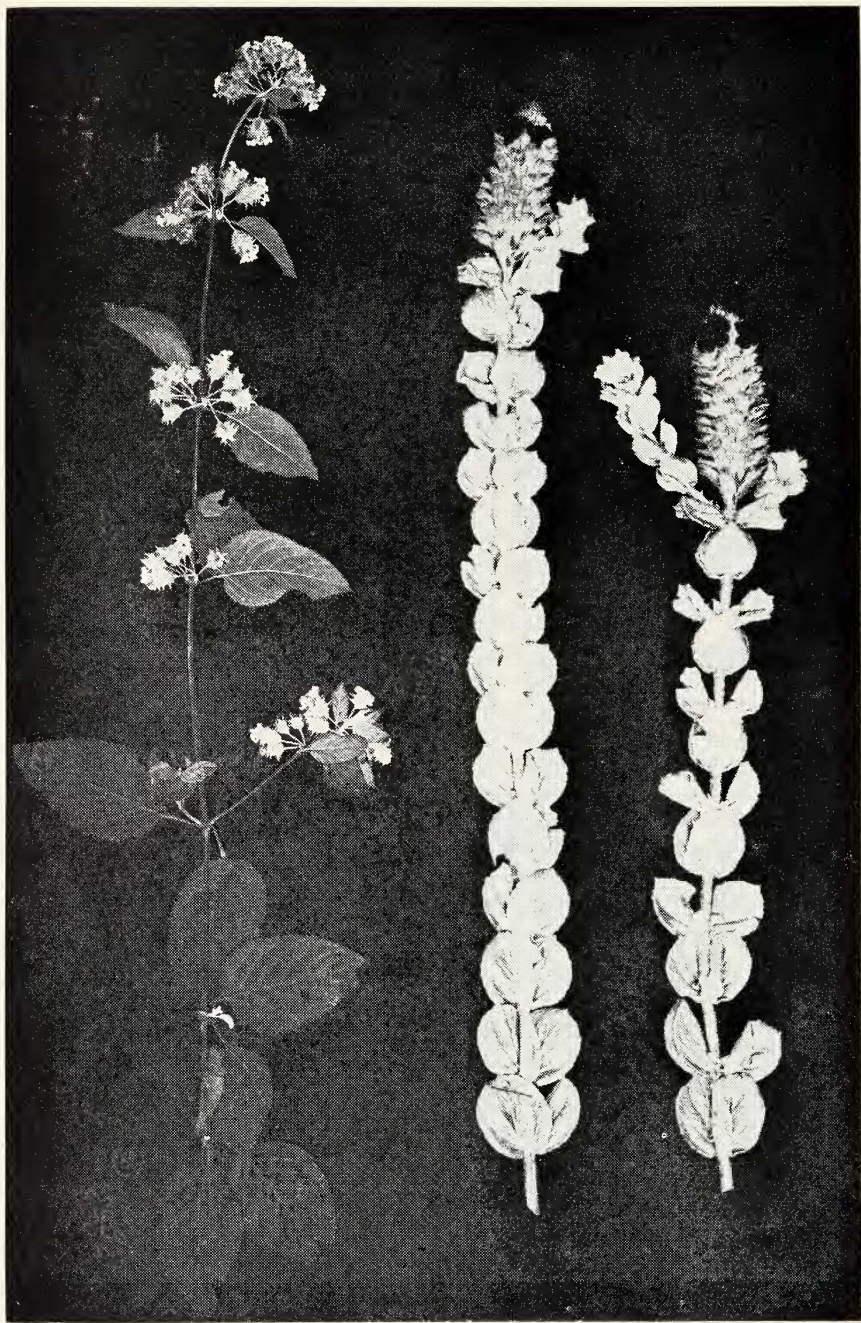


Fig. 3. (left) *Lippia mattogrossensis* Moldenke. Part of Dawson 14864, x 0.4.
(right) *Stachytarpheta sericea* Loes. Part of Dawson 14288, x 0.4.

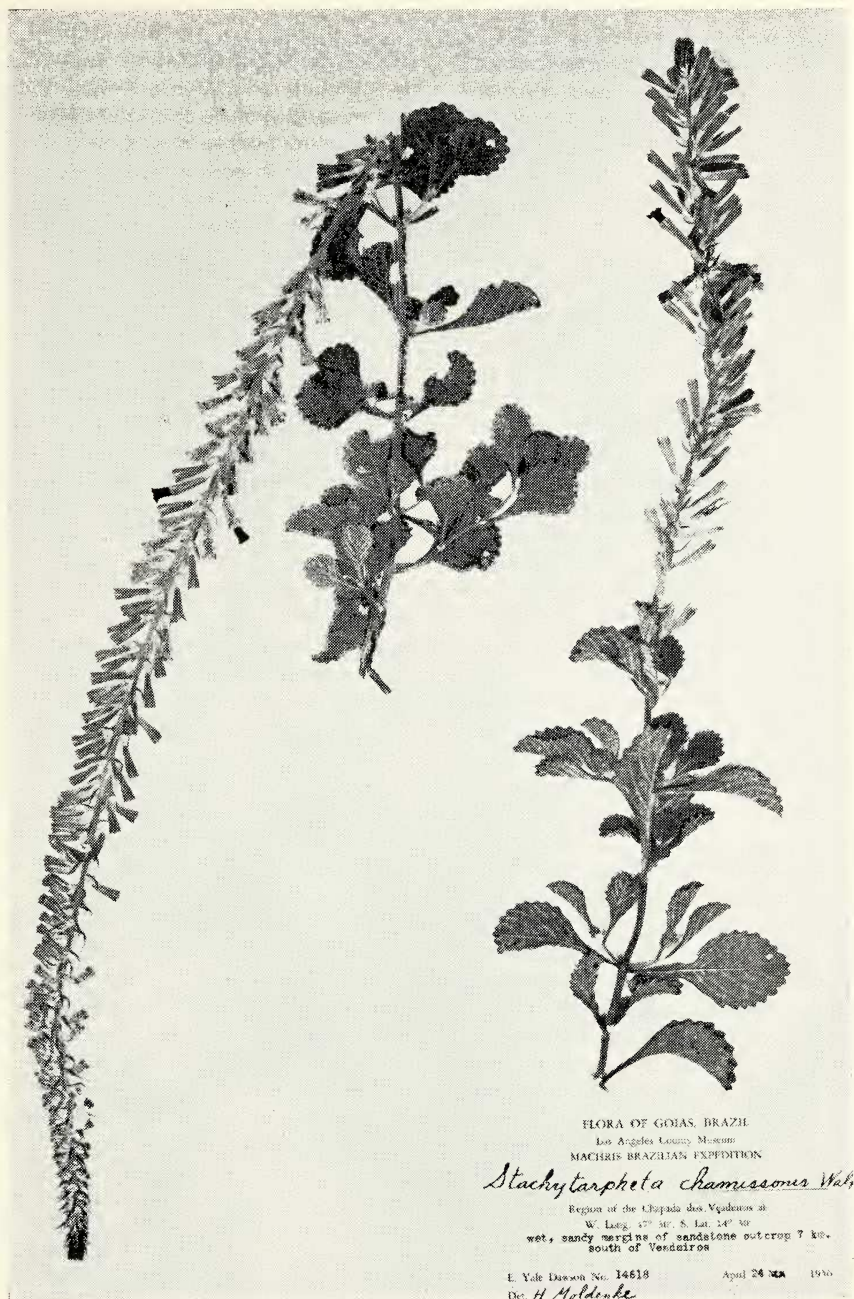


Fig. 4. *Stachytarpheta chamissonis* Walp. Part of Dawson 14618, x 0.36.

ellipticis rotundatis argute serratis, ad basim cuneatis, utrinque dense albo-villosis, pilis antrorso-adpressis; venis venulisque supra profunde impressis, subtus valde prominentibus; inflorescentiis spicatis dense multifloris, floribus arcte imbricatis; bracteis lanceolatis attenuato-acuminatis densiuscule albo-villosis; calyce tubuloso puberulo et adpresso-villosulo vel strigoso.

"A woody subshrub; stems apparently few-branched, slender, densely villous-tomentose with whitish hairs; leaves decussate-opposite, close together and more or less imbricate in pressing, sessile, subcoriaceous, uniformly gray-green on both surfaces, elliptic or slightly obovate-elliptic, 2.8-4 cm. long, 1.5-2.2 cm. wide, rounded at the apex, sharply serrate from below the widest part to the apex, cuneate at the base, densely white-villous on both surfaces with antrorsely appressed silvery hairs, the venation all deeply impressed above and very prominent beneath; midrib slender, plainly extending to the apex of the leaf; secondaries slender, 3 or 4 per side, arcuate-ascending, not extending directly into the marginal teeth; tertiary venation closely and conspicuously reticulate; inflorescence spicate, solitary at the apex of the stem, to 5 cm. long and 2 cm. wide, densely many-flowered, the flowers closely imbricate; bracts lanceolate, 10-15 mm. long, about 2 mm. wide at the base, attenuate-acuminate to the apex, rather densely white-villous with antrorsely appressed silvery hairs; calyx tubular, 1.7-1.9 cm. long, to 5 mm. wide, thin-textured, puberulent between the ribs, appressed-villosulous or strigose with antrorse silvery hairs on the ribs, its rim 5-toothed; corolla-tube about 2 cm. long, 4-5 mm. wide, the limb 5-lobed, the lobes about 5 mm. long, broadly ovate, rounded or subacute at the apex.

"The type of this species was collected by E. Yale Dawson (No. 14722) — in whose honor it is named — on the stony summit of a butte shoulder 5 km. west of Veadeiros, in the region of the Chapada dos Veadeiros, Goiás, Brazil, on April 29, 1956, and is deposited in the herbarium of the Museu Nacional at Rio de Janeiro."

Stachytarpheta gesnerioides var. *cuneata* Schau. 14981, 15058
The variety is also known from Minas Gerais and São Paulo; the typical form of the species occurs also in Matto Grosso. Other Goiás collections of the variety are Pohl s.n., and Riedel & Lund 2075, in addition to the cotypes, Lund s.n. and Riedel s.n.

Stachytarpheta glauca var. *subintegrifolia* Schau. 15053 The variety is known only from Goiás. The only other known collections are the cotypes, Pohl 1832 and s.n. Fig. 6.

Stachytarpheta maximiliani Schau. 14758 The species is widely distributed in eastern Brazil.

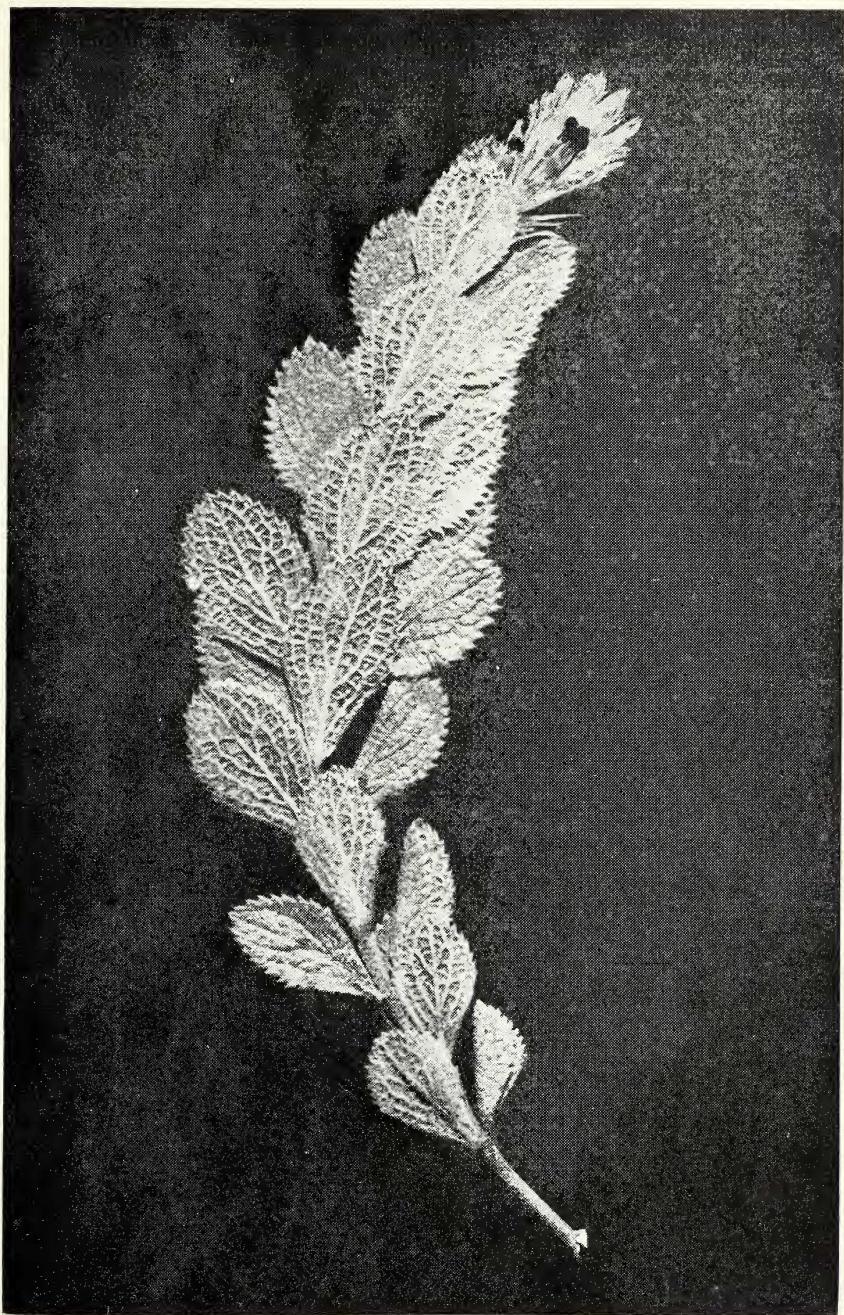


Fig. 5. *Stachytarpheta dawsonii* Moldenke. Type specimen, Dawson 14722, $\times 0.7$.



Fig. 6. *Stachytarpheta glauca* var. *subintegrifolia* Schau. Part of Dawson 15053, x 0.36.



Fig. 7. *Stachytarpheta schauerii* Moldenke. Part of Dawson 14659, x 0.6.

Stachytarpheta pachystachya Mart. 14209 Known also from Piauí and Minas Gerais. A previous Goiás collection is G. Gardner 3935, in addition to the cotype, G. Gardner 3410 (in part).

Stachytarpheta schauerii Moldenke 14659 The species is known only from Goiás. A previous collection is Glaziov 21906, in addition to the type, Pohl 2150. Fig. 7.

Stachytarpheta sericea Loes. 14288 The species is known only from Goiás. The previous known collections are only the cotypes, Glaziov 21903 and 21904. Fig. 3 (right).

VOCHYSIACEÆ

det. by F. A. Stafleu, The Herbarium, University of Utrecht,
Utrecht, Netherlands

Salvertia convallariodora A. St. Hil. 14294; 15077 This is a common species in Goiás and neighboring states.

Vochysia elliptica Mart. 14716 A common species in Goiás and neighboring states.

Vochysia obovata Stafleu 14285 Especially interesting material of an uncommon species.

Vochysia rufa Mart. ssp. *rufa* 14173 A common species in Goiás.

CONTRIBUTIONS IN SCIENCE

- No. 1. JEAN DELACOUR, The Machris Brazilian Expedition. General Account. January 23, 1957.
- No. 2. E. YALE DAWSON, The Machris Brazilian Expedition. Botany: General. January 24, 1957.
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- No. 5. FRANCIS DROUET, The Machris Brazilian Expedition. Botany: Cyanophyta. February 19, 1957.
- No. 6. CARL EPLING, The Machris Brazilian Expedition. Botany: A New Mint from Goiás, *Hyptis machrisæ*. February 20, 1957.
- No. 7. E. YALE DAWSON (Editor), The Machris Brazilian Expedition. Botany: *Phanerogamæ*, various smaller families. March 7, 1957.